

New Plant Localities in the Auckland Province.

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Most of the plants recorded in this paper were collected on a series of field trips in the Auckland Province. Details of the localities visited are given in the list at the end of the paper.

The material collected on the trip made by the three authors in November-December, 1949, was shared in the field as far as possible. The numbers following the initials of R. Mason and N. T. Moar are their collecting numbers and their specimens are deposited in the herbarium of the Botany Division, D.S.I.R., Wellington. Other numbers following the initials of R. Cooper or the personal names of H. Powell and F. Browne refer to the herbarium sheets in the Auckland Museum.

Plants recorded in New Zealand for the first time are indicated by an asterisk (*).

The Cyperaceae in the Auckland Museum collection, referred to in this paper, have been identified by Mr. V. J. Cook, to whom thanks are due. We are also very grateful to Mr. and Mrs. Hayden, Matihetihe Native School, and to Mr. and Mrs. R. H. Michie, Kaitaia, for hospitality and assistance in the field.

NATIVE PLANTS.

Atriplex crystallina Hook. f.

Karikari Bay, R.M. & N.T.M., 286; Sandy beach, north end of Waikuku Beach, North Cape tombolo, H. E. Powell, 26436.

Callitriche verna L.

Medland's Beach, Great Barrier Island, R.M., 448.

Calochilus sp.

Specimens of *Calochilus* with yellow flowers and dark red fimbriae on the labellum were collected at Aranga swamp (R.M. & N.T.M., 88). Mr. Edwin D. Hatch considers it may be a hybrid between *C. campestris* and *C. robertsonii* and that it is practically identical with those specimens from Ahipara, probably of hybrid origin, which he records under *C. campestris* (1949: 248), except that the Aranga specimens have well-developed fimbriae.

Carex gaudichaudiana Kunth.

Swamp alongside Keri Keri inlet road, R.C., 35861.

Carex lucida Boott.

Medland's Beach, Great Barrier Island, R.M., 464.

Carex pseudocyperus L.

Kaitoke, Great Barrier Island, R.M., 505.

Carex stellulata Good.

Otoroa, R.C. & N.T.M.

Cladium huttoni T. Kirk.

Kaitoke, Great Barrier Island, R.M., 424; Muir's Lake, Waiuku, N.T.M., 462; Thompson's Lake, Waiuku, N.T.M., 475; Ototoa, Kaipara Harbour, N.T.M., 562; North Head, Kaipara Harbour, N.T.M., 606

Danthonia bromoides Hook. f.

Seacliffs at Leigh, R.M., 583.

Drosera pygmaea D.C.

Karikari Bay, R.M. & N.T.M., 274; Lake Ohia, R.M. & N.T.M., 304, R.C., 35778.

Eleocharis acuta R. Br. var. *tenuis* Carse.

Kerikeri swamp, R.M. & N.T.M., 365, R.C., 35867; Otekairangi, R.M. & N.T.M., 410; Oruru Stream near Taipa, R.C., 35996.

Eleocharis neo-zelandica C. B. Clarke ex T. Kirk.

Waihopai Stream, R.M. & N.T.M., 178.

Gleichenia flabellata R. Br.

Whangaparapara Valley, Great Barrier Island, R.M., 500.

Glossostigma elatinoides Benth.

Medland's Beach, Great Barrier Island, R.M., 446.

Hydatella inconspicua Cheesem.

L. Rotokawau, North Head, Kaipara Harbour, N.T.M., 584; L. Pouto, North Head, Kaipara Harbour, N.T.M., 571; L. Waiparera, near Waiharara, H. E. Powell, 26434.

Juncus holoschoenus R. Br. var. *multiflorus* Carse.

Tokerau Beach road, R.M. & N.T.M., 301.

Juncus pallidus R. Br.

Kaiaangaroa, R.M. & N.T.M., 322; Merita, R.C., 36160.

Korthalsella salicornioides (A. Cunn.) Van Tiegh.

Parasitic on *Leptospermum ericoides* at Kapowairua, Spirits Bay, R.C., 24435.

Mazus pumilio R. Br.

Waihopai Stream, R.M. & N.T.M., 140.

Metrosideros albiflora Sol. ex Gaertn.

Warawara Kauri Forest, R.C., 35577.

Myriophyllum robustum Hook f.

Whareana Creek, North Cape, H. E. Powell, 26439; Poutu, Kaipara Harbour, N.T.M., 610.

Myriophyllum votschii Schindler.

Ahipara Hill, R.M. & N.T.M., 327, R.C., 35738; Lake Ngatu, R.M. & N.T.M., 265, R.C. 35775; Karikari Bay, R.M. & N.T.M., 297; Lake Kanono, N.T.M., 588.

Nertera setulosa Hook. f.

Waipoua Forest, K. W. Allison; Kaihu River, R.M. & N.T.M., 84, R.C., 35504; Warawara State Forest, R.C., 35620, 35624; Waihopai Stream, R.M. & N.T.M., 165, 171; Wairoa Stream, R.M. & N.T.M., 193; Otekairangi, R.C., 35914; Oruru Stream, Taipa, R.C., 36018; Pekerau, north of Taipa, H. E. Powell, 26438; Lake Waiparera, near Waiharara, H. E. Powell, 26432.

Nothopanax anomalum (Hook. f.) Seem.

Near summit of Ounuwhao, 950', Spirits Bay, R.C., 24477.

Pittosporum pimeleoides R. Cunn. ex A. Cunn.

In remnant of kauri forest on south bank of Oruru River, one mile west of Taipa, R.C., 36009; H. E. Powell, 26437.

Pomaderris edgerleyi Hook f.

Near Babylon, R.M. & N.T.M., 64, R.C., 35483.

Potamogeton cheesemani A. Bennett.

Medland's Beach, Great Barrier Island, R.M., 445.

Pseudowintera axillaris (J. R. & G. Forst.) Dandy.

Near summit of Ounuwhao, 950', Spirits Bay, R.C., 24475.

Schoenus apogon Roem. et Schult.

Warawara State Forest, R.C., 35571; Waihopai Stream, R.M. & N.T.M., 149, 156; Ahipara Hill, R.C., 35707; between Whangatupere Bay and Brodie's inlet, R.C., 35792; Otoroa, R.C., 35841.

Schoenus carsei Cheesem.

Ahipara Hill, R.M. & N.T.M., 211, R.C., 35704; Kerikeri swamp, R.M. & N.T.M., 373.

Schoenus nitens (R. Br.) Poir.

North Kaipara Head, N.T.M., 605.

Schoenus nitens (R. Br.) Poir. var. *concinus* (Hook. f.) Cheesem.

Karikari Bay, R.M. & N.T.M., 308.

Scirpus caldwelli V. J. Cook.

Tokatoka, R.M. & N.T.M., 50, R.C., 35466a.

Scirpus medianus V. J. Cook.

Tokatoka, R.M. & N.T.M., 49, R.C., 35466b; Tryphena, Great Barrier Is., R.M., 461; Lake Kanono, North Kaipara Head, N.T.M., 591.

Scirpus peruviridis V. J. Cook.

Omapere, R.M. & N.T.M., 118, R.C., 35545; Lake Tongonge, R.M. & N.T.M., 323; north of Lake Pokoroa, Waiuku, N.T.M., 493.

Scirpus sulcatus Thouars var. *distigmata* C. B. Clarke ex Cheesem.

In crevices among wet boulders under Keri Keri Falls, R.C., 35932.

Solanum aviculare Forst. f. var. *albiflora* Cheesem.

Kaiarara Bay, Great Barrier Island.

Utricularia delicatula Cheesem.

Aranga swamp, R.M. & N.T.M., 105; Ahipara Hill, R.M. & N.T.M., 215, R.C., 35709; Otoroa swamp, R.M. & N.T.M., 332.

Utricularia noxae-zelandiae Hook. f.

Lake Ohia, R.M. & N.T.M., 318, R.C., 35806; Lake Pouto, N.T.M., 583.

Utricularia protrusa Hook. f.

Lake Rotokawau, Opoe S.D., R.M. & N.T.M., 251, R.C., 35766, 25780; Karikari Bay, R.M. & N.T.M., 282; Wilson's Lake, N.T.M., 513; Pouto, North Kaipara Head, N.T.M., 582.

Zoysia matrella (L.), Merr.

Kaitoke, Great Barrier Island, R.M., 423.

INTRODUCED PLANTS.

Alisma plantago-aquatica L.

Kaitaia, end of Bonnett's Road, R.M. & N.T.M., 249, R.C., 35754. This plant, without flowering stalks, was also seen in the stream running behind the motor camp at Kaitaia. According to Mr. R. H. Michie it has come into the district within the last fifteen years. The leaves of the Kaitaia plants are subcordate at the base, whereas the leaves of plants from Wellington southwards have cuneate bases. The Wellington plants are also larger in size. In view of the differences between the northern and southern plants, and the distance between the occurrences, it is possible that they have come from separate introductions.

Anacharis canadensis (Michx.) Planch.

Muir's Lake, Waiuku, N.T.M., 444. In the neighbourhood of Auckland this is known only from the Waikato River and Western Springs, and was not seen at all north of Auckland. The specimens collected by R. H. Matthews and recorded by Cheeseman (1925: 1054 as *Elodea*) seem to be the only ones so far collected in North Auckland.

Anthemis nobilis L.

Otekairangi, R.M. & N.T.M., 405, R.C., 35900.

Apium tenuifolium (Moench) Thellung.

Medland's Beach, Great Barrier Island, R.M., 450.

Arum sp., either *Arum maculatum* L. or a closely allied species.

Near site of old house, Okupu Bay, Great Barrier Island.

Aster subulatus Michx.

Some plants were seen at the head of Whangaparapara Harbour, Great Barrier Island.

Blackstonia perfoliata (L.) Huds.

Karikari Bay, R.M. & N.T.M., 291.

Cardamine pratensis L.

Woodhill, R.M. & N.T.M., 10, 17; Kaitaia motor camp, R.M. & N.T.M., 206, R.C., 35698; Otekairangi, R.M. & N.T.M., 385.

Carex dizulsa Good.

Whangarei station, R.M. & N.T.M., 413, R.C., 35915; Leigh, R.M., 516.

Carthamus lanatus L.

Mangawai, Miss F. Browne, 36183.

**Cyperus sanguinolentus* Vahl.

Waihopai stream, R.M. & N.T.M., 147, 160. These specimens were compared with material from the National Herbarium of N.S.W., Sydney, and seem to agree well, except that the New Zealand specimens have smaller inflorescences with no rays and fewer spikes.

Eichhornia crassipes Schlecht.

Muir's Lake, Waiuku, N.T.M., 445. This was deliberately planted in the lake.

Erechtites atkinsonae F. Muell.

Whangaparapara Harbour, Great Barrier Is., R.M., 501. November was too early to find this in flower and no specimens were collected, but young plants were seen frequently wherever we went north of Auckland.

Erechtites valerianaefolia D.C.

Kaitoke Valley, Great Barrier Island, R.M., 507, 512.

Erica baccans L.

Te Ahumata, Great Barrier Island, R.M., 471; ridge between Kaitoke Valley and Awana Valley, Great Barrier Island, R.M., 508.

Eupatorium adenophorum Spreng.

In damaged bush near Otekairangi swamp, R.M. & N.T.M., 403, R.C., 35899.

Festuca arundinacea Schreb.

Great Barrier Island.

Galium palustre L.

Woodhill, R.M. & N.T.M., 12, R.C., 35429; Kaihu River, R.M. & N.T.M., 79, R.C., 35494; Lake Tongonge, R.M. & N.T.M., 253, R.C., 35758; between Taumarere and Kawakawa, R.M. & N.T.M., 353.

Galium parisicnse L.

Road between Medland's Beach and Tryphena Harbour, Great Barrier Island, R.M., 453.

Glyceria sp.

In the gully near the wharf in Blind Bay, Great Barrier Island, there is a patch of *Glyceria*, probably *G. fluitans*.

Hakea acicularis R. Br.

Kaitoke, Great Barrier Island, R.M., 418. This is widespread in the scrub country on Great Barrier Island. It was, however, more abundant to the south of Port Fitzroy Harbour than south of Mt. Hobson and Mt. Young.

Hakea pubescens Schrad.

Kaitoke, R.M., 514. This is also widespread in the scrub country on the Great Barrier Island, but appears to be much the most abundant species south of Mt. Hobson and Mt. Young.

**Hedychium oblongum* K. Schum.

Kaero, a large patch by the roadside in the town, R.M. & N.T.M., 333, R.C., 35831. This plant fits the description of *H. oblongum* K. Schumann (1904: 48) quite well, except that the bracts are rather hairy at the upper end and almost tomentose at the middle of the extreme tip.

Kyllinga brevifolia Rottb.

Waihopai Stream, R.M. & N.T.M., 146, 157; Kaitoke, Great Barrier Island, R.M., 481; Wilson's Lake, N.T.M., 525.

Lavatera arborea L.

Rawene, R.M. & N.T.M., 122, R.C., 35538. On waste land near the wharf there were several plants of a variegated form of *L. arborea*, smaller than the normal green form. *L. arborea* was not noticed at any other coastal localities.

**Ligustrum sinense* Lour.

Kaero, R.M. & N.T.M., 334, R.C., 35832. This plant is common on roadsides and in waste spaces about Auckland City. It agrees with the description of *L. sinense* but there is no authentic material for comparison in the Botany Division and Auckland Museum herbaria.

Lotus angustissimus L.

Great Barrier Island.

Lotus uliginosus Schkuhr.

Great Barrier Island.

Ludwigia palustris (L.) Ell.

Near Babylon, R.M. & N.T.M., 80; Kerikeri swamp, R.M. & N.T.M., 356, 376; stream alongside Puketona-Paihia road, one mile above Haruru Falls, R.C., 35856; Otekairangi, R.M. & N.T.M., 408, R.C., 35902; Kaitoke, Great Barrier Island, R.M., 441; Muir's Lake, N.T.M., 456; Wilson's Lake, N.T.M.

Mariscus congestus (Vahl.) C. B. Clarke.

Karikari Bay, R.M. & N.T.M., 294; Sandy track, Merita, R.C., 36076; Pekaerau, north of Taipa, H. E. Powell, 26435; Muir's Lake, N.T.M., 450; Thompson's Lake, N.T.M., 478.

**Nymphaea alba* L.

Stream alongside Puketona-Paihia road about a mile above Haruru Falls, R.M. & N.T.M., 355, R.C., 35855; Muir's Lake, N.T.M., 446. This may have been planted.

Opuntia monacantha Haw.

Okupu Bay, Great Barrier Island. Several plants not far from site of old house.

Panicum lindheimeri Nash.

Kaitoke Valley, Great Barrier Island, at head of valley near eastern hot springs. R.M., 506, 508.

Paspalum dilatatum Poir.

Great Barrier Island.

**Passiflora edulis* Sims.

Mangapiko Saddle, Great Barrier Island, R.M., 497. There were a number of fruiting plants growing wild among short *Leptospermum* scrub near an old hut where the tram tracks pass between Mangapiko and Mt. Young.

Pennisetum clandestinum Hockst.

Roadside, Kaitoke Valley, Great Barrier Island.

Physalis peruviana L.

In bush gully between Whangatupere Bay and Brodie's Inlet, R.C., 35793.

**Phytolacca americana* L.

Matai Bay, R.C., 35783. These specimens fit the description of *P. americana* by H. Walter (1909: 52-55) much better than that of any other species, but have 12 stamens instead of 10 and sometimes the base of the raceme is paniculate. However, according to P. Wilson (1932: 263), the number of stamens may be 9 to 12.

Phytolacca octandra L.

Medland's Beach, Great Barrier Island, R.M., 452.

Pinus sp.

A species of *Pinus*, probably *P. maritima*, is spreading in the scrub in the valley behind the post office and wharf at Tryphena, Great Barrier Island. In the scrub on the open hill on the south side of Kaiarara Bay there are also small pine trees scattered here and there.

Polygala myrtifolia L.

Kaitoke, Great Barrier Island, R.M., 503. odd plants under *Leptospermum ericoides*. It was also seen near Cooper's wharf, Port Fitzroy.

Polygogon lutosus (Poir.) Hitchc.

Omapere, R.M. & N.T.M., 119, R.C., 35541; Koware Trig, above Matai Bay, R.C., 35786; track from Brodie's inlet to Merita, R.C., 36066.

Potamogeton crispus L.

Thompson's Lake, Waiuku, N.T.M., 480.

Psoralea pinnata L.

Tryphena Harbour, Great Barrier Island, R.M. 463. This was common near the shore at the north end of the harbour. One or two plants were noticed on the road leading from Blind Bay.

Ranunculus flammula L.

Kerikeri Swamp, R.M. & N.T.M., 357, R.C., 35857; between Taurarere and Kawakawa, R.M. & N.T.M., 352, R.C., 35850.

Ranunculus fluitans Lam.

Wilson's Lake, N.T.M., 515. This was recorded by Cheeseman (1925: 1064, as *R. aquatilis*) "from the Waikato southwards," and by Allan (1940: 48) as "frequent in streams and ponds in both Islands." It was not seen north of Auckland city and no specimens seem to have been collected there.

**Rubus* sp.

Near the junction of the Pawarenga-Broadwood and Broadwood-Herekino roads, R.M. & N.T.M. 205, R.C., 35695. This is a plant with an upright habit, somewhat like that of a raspberry but of denser growth; the leaves are palmately divided. It was the only introduced species of *Rubus* noted from the car as we drove from the Broadwood turn-off through the Herekino gorge until Kaitaia was reached. It was common and often growing in dense masses by the roadside and in damp paddocks.

Rubus sp.

A few poorly developed canes of blackberry were noticed in the Kaitoke valley, Great Barrier Island, mostly on farmland.

Rumex conglomeratus Murray.

Medland's Beach, Great Barrier Island, R.M., 451.

**Rumex hydrolapathum* Huds.

Helensville, N.T.M. & R.M., 21, R.C., 35435. These plants were scattered in a patch about eight yards long on a low stopbank on the town side of the bridge across the Kaipara River.

Scleropoa rigida (L.) Griseb.

Woodhill, R.M. & N.T.M., 11, R.C., 35427; North end of Taipa Beach, R.C., 36043.

Sisyrinchium micranthum Cav.

Ahipara Hill, R.M. & N.T.M., 246, R.C., 35772.

Soliva anthemifolia (Juss.) R. Br.

End of Bonnett's Road, Kaitaia, R.M. & N.T.M., 258, R.C., 35761.

Stenolaphrum secundatum (Walt.) Kuntze.

Great Barrier Island.

Tradescantia fluminensis Vell.

Okupu Bay, Great Barrier Island, near wharf—a small patch at edge of stream near site of old house.

Trifolium glomeratum L.
Great Barrier Island.

Tropaeolum majus L.

Okupu Bay, Great Barrier Is., near site of old house near wharf.

Ulex europaeus L.

This was recorded by Kirk (1869: 154) as occurring on the Great Barrier Island, but no further details were given. At present it is growing abundantly about Port Fitzroy, but it was not seen at all in the south of the island and local residents hope that its spread southwards will not take place.

Vitis vinifera L. ?

Road between Medland's Beach and Tryphena, Great Barrier Island, R.M., 454. Grape vines are growing over several cuttings on this road and are well established.

**Wahlenbergia* sp.

Otekairangi, R.M. & N.T.M., 406, R.C., 35901. This plant fits the description of *W. tadgellii* Lothian (1946: 228-229), but there is no authentic material with which to make a comparison in the Botany Division and Auckland Museum herbaria.

Watsonia bulbifera Matthews et Bolus.

Woodhill, R.M. & N.T.M., 13, R.C., 35430; Kaitaia motor camp, R.C., 35701. This plant is a common wayside weed north of Auckland and was noted near Warkworth, at Wellsford, in and about Dargaville, Waimamaku, Omapere, Pangaru, and Mangonui, and it was abundant at Kaeo, where it was first recorded.

Watsonia meriana Mill.

Henderson, R.M. & N.T.M., 1, 2, R.C., 35418, 35420; Ruawai, R.M. & N.T.M., 44, R.C., 35463. The specimens collected at Henderson included both white (Nos. 1 and 35418) and mauve (Nos. 2 and 35420) flowered forms.

Zantedeschia aethiopica Spreng.

Mitimiti sand dunes, R.C., 35654; Lake Tongonge, R.M. & N.T.M., 255.

Zizania latifolia Turcz.

Wilson's Lake, South Kaipara Head, N.T.M., 531.

LOCALITIES COLLECTED.

Most of the plants recorded in this paper were collected on the following field trips: Mangonui, Spirits Bay, Kerr Point, Kaitaia, in the North Auckland Botanical District. (February, 1949. R. Cooper.)

Auckland, Henderson, Woodhill, Helensville, coast road to Tauhoa, Warkworth, Topuni, Maungaturoto, Ruawai, Tokatoka, in the South Auckland Botanical District, Dargaville, Babylon, Maitahi, Kahui, Aranga swamp, Waipota Forest, Omapere, Rawene, Narrows Landing, Pangaru, Mitimiti, Warawara State Forest, down coast to Waihopai stream and swamp in upper part of valley, down Wairoa stream from road near Reena, Runaruna, Herekino Gorge, Kaitaia, Ahipara Gunlands Road, Lake Tongonge from end of Bonnett's Road, Lake Ngatu,

Lake Rotokawau in Opoe S.D., Karikari Bay and swamp by way of Wairahoraho stream, Matai Bay, Brodie's Inlet, Tokerau Beach road, Lake Ohia, Kaiangaroa swamp, Mangonui, Kaeo, Otoroa swamp, swamp on Kerikeri inlet road, Paihia, Kawakawa, Whangarei and Otekairangi swamp, in the North Auckland Botanical District. (November-December, 1949. R. Mason, N. T. Moar, R. Cooper.)

Great Barrier Island, in the Thames Botanical District: Okupu, Blind Bay to Kaitoke Valley, Te Ahumata (Whitecliffs), Whangaparapara, Port Fitzroy by way of ridge between Kaitoke and Whangaparapara valleys, foot of Mount Young and Mangapiko to road and main wharf, up valley from Kaiarara Bay and old track to saddle between Mount Hobson and Mount Young, landing at Cooper's, Port Fitzroy; road from Kaitoke to Tryphena Harbour and old bridle path over to Blind Bay, hot springs in Kaitoke Valley and over old track to ridge and down into Awana Valley. (Christmas, 1949. R. Mason.) Since Kirk (1869: 144-154) published an account of the botany of the Great Barrier, which included a list both of native and of a considerable number of introduced plants, there have been only occasional new records from the island. A good many introduced plants that grow on the mainland have reached the Barrier and a number of new records, mainly of introduced weeds, are included here. Where no collecting number is given, no specimen was collected. No attempt was made to make a complete list of introduced, escaped and naturalized plants, and no doubt many more new records will be found.

Mangonui, Taipa, Brodie's inlet, Matai Bay, Merita, Whatuwhiwhi, in the North Auckland Botanical District (January, 1950. R. Cooper).

South Auckland Botanical District.—Franklin County: Thompson's Lake, Map N51 195E O92N; Muir's Lake, Map N51 210E O67N; Lake Pokoroa, Map N46 150E 190N; Lake Okaihau (Houghton's Lake), near Muriwai. South Kaipara Head: Wilson's Lake, Map N37 180E 920N; Lake Kuwakatai, Lake Ototoa. North Kaipara Head: Swan Lake (Lake Pouto), Lake Rotokawau, Lake Waingata, Lake Kanono, Lake Humu Humu. North Auckland Botanical District.—Mangonui County: Lake Ngatu, Lake Rotokawau in Opoe S.D., Lake Waiparera. Map references are given for lakes for which no names were found on a map. (January-February, 1950. N. T. Moar.)

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